CLAIMS

What is claimed is:

1. A sustained release composition for use as an excipient of an orally administered specimen containing a bioactive substance, comprising:

(a) cellulose in an amount by weight in the orally administered specimen in the range from about 4% to about 14%; and

(b) maltodextrin in an amount such that the ratio by weight of the amount of cellulose to the amount of maltodextrin in the orally administered specimen is at least about 1:9, and wherein the cellulose and the maltodextrin are distributed throughout the orally administered specimen.

2. A sustained release composition as recited in claim 1, wherein said orally administered specimen further comprises a glucosamine-based compound.

3. A sustained release composition as recited in claim 1, wherein said orally administered specimen further comprises a chondroitin-based compound.

4. A sustained release composition as recited in claim 1, wherein said orally administered specimen further comprises methylsulfonyl methane.

5. A sustained release composition as recited in claim 1, wherein said orally administered specimen further comprises a compound selected from the group consisting of glucosamine sulfate, glucosamine hydrochloride, and mixtures thereof.

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6. A sustained release composition as recited in claim 1, wherein said orally administered specimen further comprises chondroitin sulfate.

7. A sustained release composition as recited in claim 1, wherein said ratio by weight of the amount of cellulose to the amount of maltodextrin in the orally administered specimen is in the range from about 1:9 to about 2:3.

8. A sustained release composition as recited in claim 1, wherein said ratio by weight of the amount of cellulose to the amount of maltodextrin in the orally administered specimen is in the range from about 1:4 to about 3:7.

9. A sustained release composition as recited in claim 1, wherein said cellulose is comprised in an amount by weight in the orally administered specimen in the range from about 5% to about 13%.

10. A sustained release composition as recited in claim 1, wherein cellulose comprised therein is in the form of powdered cellulose.

11. A sustained release composition as recited in claim 1, wherein said delivery specimen is a tablet.

12. A sustained release composition as recited in claim 1, wherein said cellulose is cellulose with a polymerization degree in the range from about 440 to about 2250.

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13. A sustained release composition as recited in claim 1, wherein said cellulose is cellulose with a polymerization degree of about 1432.

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14. A sustained release composition as recited in claim 1, wherein said maltodextrin is a maltodextrin selected from the group consisting of M580 maltodextrin, M700 maltodextrin, and mixtures thereof.

15. A sustained release composition as recited in claim 1, wherein said maltodextrin is M510 maltodextrin that is substantially free of wheat protein, barley protein, oat protein, and rye protein.

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16. A method for providing sustained release of a bioactive substance during a chosen time interval, comprising:

(a) providing a delivery specimen including a sustained release composition as recited in claim 1 with a bioactive substance;

(b) determining the sustained release of the bioactive substance as a function of time to ascertain the effective amount of bioactive substance that is released and to ascertain the time during which said bioactive substance is released; and

(c) determining a delivery specimen intake frequency and a number of said delivery specimens taken to maintain a desired amount of bioactive substance during a chosen time interval.

17. A method as recited in claim 16, wherein said determining the sustained release of the bioactive substance as a function of time comprises determining the cumulative release of the bioactive substance as a function of time.

18. A method as recited in claim 16, wherein said determining the sustained release of the bioactive substance as a function of time comprises determining the incremental release of the bioactive substance as a function of time.

19. A method as recited in claim 16, wherein said bioactive substance is a compound selected from the group consisting of glucosamine sulfate, glucosamine hydrochloride, and mixtures thereof.

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20. A method as recited in claim 16, wherein said delivery specimen is a tablet.

21. A sustained release composition for use as an excipient of an orally administered specimen containing a bioactive substance, comprising:

(a) cellulose in an amount by weight in the orally administered specimen in the range from about 4% to about 14%;

(b) maltodextrin in an amount such that the ratio by weight of the amount of cellulose to the amount of maltodextrin in the orally administered specimen is at least about 1:9, and wherein the cellulose and the maltodextrin are distributed throughout the orally administered specimen; and

(c) a bioactive substance, such that the maltodextrin and the cellulose provide in an aqueous medium the sustained release of the bioactive substance for a time period, and this time period is at least one hour.

22. A sustained release composition as recited in claim 21, wherein said time period is in the range from about one hour to about three hours.

23. A sustained release composition as recited in claim 21, wherein said time period is in the range from about one hour to about two hours.

24. A sustained release composition as recited in claim 21, wherein said bioactive substance comprises a glucosamine-based compound.

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25. A sustained release composition as recited in claim 21, wherein said bioactive substance comprises a chondroitin-based compound.

26. A sustained release composition as recited in claim 21, wherein said bioactive substance comprises a substance selected from the group consisting of glucosamine sulfate, glocosamine hydrochloride, and mixtures thereof.

27. A sustained release composition as recited in claim 21, wherein said bioactive substance comprises chondroitin sulfate.

28. A sustained release composition as recited in claim 21, wherein said bioactive substance comprises methylsulfonyl methane.

29. A sustained release composition as recited in claim 21, wherein said cellulose is comprised in an amount by weight in the orally administered specimen in the range from about 5% to about 13%.

30. A sustained release composition as recited in claim 21, wherein the cumulative sustained release of the bioactive substance as a function of time increases for a time period of at least about one hour.

31. A sustained release composition as recited in claim 21, wherein the incremental sustained release of the bioactive substance as a function of time provides an amount of the bioactive substance that is, in any fifty-minute interval during said time

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period, less than about 50% of the total amount of the bioactive substance initially present in the orally administered specimen.

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32. A sustained release composition as recited in claim 21, wherein said orally administered specimen is a tablet.

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33. A sustained release composition for use as an excipient of an orally administered specimen containing a glucosamine-based substance, comprising:

(a) cellulose in an amount by weight in the orally administered specimen in the range from about 4% to about 14%;

(b) maltodextrin in an amount such that the ratio by weight of the amount of cellulose to the amount of maltodextrin in the orally administered specimen is at least about 1:9 and the amount of maltodextrin exceeds the amount of cellulose, such that the cellulose and maltodextrin composition acts as a stomach guard with respect to the glucosamine-based substance, and wherein the cellulose and the maltodextrin are distributed throughout the orally administered specimen; and

(c) a glucosamine-based substance, such that the maltodextrin and the cellulose provide in an aqueous medium the sustained release of the glucosamine-based substance for a time interval such that the released glucosamine-based substance does not significantly irritate the recipient's stomach lining.

34. A sustained release composition as recited in claim 33, wherein said maltodextrin is a commercial maltodextrin free from wheat protein, barley protein, oat protein, and rye protein.

35. A sustained release composition as recited in claim 33, wherein said specimen is a tablet, and said cellulose is comprised therein in the form of powdered cellulose.

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36. A sustained release composition as recited in claim 33, wherein said cellulose is comprised in an amount by weight in the orally administered specimen in the range from about 5% to about 13%.

37. A sustained release composition as recited in claim 33, wherein said ratio by weight of the amount of cellulose to the amount of maltodextrin in the orally administered specimen is in the range from about 1:9 to about 2:3.

38. A sustained release composition as recited in claim 33, wherein said ratio by weight of the amount of cellulose to the amount of maltodextrin in the orally administered specimen is in the range from about 1:4 to about 3:7.

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39. A method for providing sustained release of a bioactive substance during a chosen time interval, comprising:

(a) providing a delivery specimen including

(i) cellulose in an amount by weight in the delivery specimen in the range from about 4% to about 14%;

(ii) maltodextrin in an amount such that the ratio by weight of the amount of cellulose to the amount of maltodextrin in the delivery specimen is at least about 1:9, and wherein the cellulose and the maltodextrin are distributed throughout the delivery specimen; and

(iii) a bioactive substance, such that the maltodextrin and the cellulose provide the sustained release of the bioactive substance for the chosen time interval;

(b) determining the sustained release of the bioactive substance as a function of time to ascertain the effective amount of bioactive substance that is released and to ascertain the time during which said bioactive substance is released; and

(c) determining an intake frequency and a number of said delivery specimens to maintain a desired amount of bioactive substance during a chosen time interval.

40. A method as recited in claim 39, wherein said determining the sustained release of the bioactive substance as a function of time comprises determining at least one of the cumulative release of the bioactive substance as a function of time and the incremental release of the bioactive substance as a function of time.

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41. A method as recited in claim 39, wherein said cellulose is powdered cellulose and said maltodextrin comprises at least one maltodextrin selected from the group M510 maltodextrin, M580 maltodextrin, M700 maltodextrin, and mixtures thereof.

42. A method as recited in claim 39, wherein said cellulose is comprised in an amount by weight in the orally administered specimen in the range from about 5% to about 13%, and said ratio by weight of the amount of cellulose to the amount of maltodextrin in the orally administered specimen is in the range from about 1:9 to about 2:3.

43. A method as recited in claim 39, wherein said delivery specimen is a tablet, and said ratio by weight of the amount of cellulose to the amount of maltodextrin in the orally administered specimen is in the range from about 1:4 to about 3:7.

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